

Book Reviews

Macrophage Biology. Progress in Leukocyte Biology, Vol. 4. Edited by S. REICHARD and M. KOJIMA. (Pp. xxviii + 965; approximately 270 illustrations; £86.) New York: Allan R. Liss. 1985.

Although the phagocyte function of macrophages has been known since Metchnikoff it is only recently that the complexity of their involvement in defence mechanisms has emerged. This large volume, based on a Congress held in Japan in September 1984, contains 78 articles arranged under 10 topic headings. Mention of a few of the points may convey its general flavour.

Activation of macrophages may be brought about experimentally by sequential exposure to gamma interferon and lipopolysaccharides, activation being associated with the ability to lyse tumour cells. Macrophages have regulatory effects on other cells, the secretion of Interleukin I, for example, stimulating lymphocyte proliferation. There is a long list of known macrophage secretory products, and mechanisms for controlling their release are complex. Potentiation of the secretion of tumoricidal substances could have clinical application. Antigen presentation by macrophages depends on the ability to synthesise and express Ia surface antigens and is critical in activating T helper cells. Macrophage responses may be initiated by chemical mediators binding to surface receptors; the receptors migrate into coated pits as a prelude to endocytosis, internalisation and dissociation, with subsequent recycling of the receptor to the cell surface. Protein kinase C seemingly has a crucial role in the stimulus–response coupling. The presence of tumours may be associated with defective macrophage responses and soluble anti-inflammatory mediators have been identified. Macrophages have an important role in foam cell formation in atheroma. Toxic oxygen metabolites are used in killing microorganisms and they may cause inappropriate tissue injury in collagen and other diseases. Using the phagocytic properties of alveolar macrophages, murine Legionnaire's disease has been treated with antibiotic contained in polysaccharide-coated lysosomes. Specialised forms of mononuclear phagocytes include resident tissue macrophages, which are to some degree a self-sustaining population, and Langerhans cells, but all are ultimately derived from narrow precursors. The Langerhans cell is of importance in immune surveillance in the skin, contact hypersensitivity and graft rejection; it provides the stem cell in histiocytosis X. 'Immortal' macrophage lines can be produced *in vitro* with genomic DNA techniques. Using monoclonal antibodies, Reed–Sternberg cells appear to be derived from activated lymphocytes rather than macrophages; using immunocytochemical electron microscopy, the opposite conclusion could be drawn!

While such a book, composed of short articles, has drawbacks in terms of absence of a unifying thread of thought or a well-argued overview, it succeeds in giving a fascinating glimpse of exciting developments. For anyone with an interest in mononuclear phagocytes, it can be confidently recommended, and the fact that it impinges upon a wide span of disciplines and interests will, for a short time, make it a useful reference book.

G. HUDSON

Clinically Oriented Anatomy. By KEITH L. MOORE. 2nd edition. (Pp. xiv + 1101; profusely illustrated; £32.) Baltimore, London, Los Angeles and Sydney: Williams & Wilkins. 1985.

The first thing to notice about this book is that the second edition has roughly 150 fewer pages than the first – truly a memorable feat on the part of the author. The second thing is that on thumbing rapidly through the pages one has a sense of déjà vu. This is because a very large number of the illustrations have come from Grant's Atlas and from his Method of Anatomy and one recognises many old friends such as the fibula tied in a knot. The book, in fact, is dedicated to Boileau Grant and is a worthy successor to his books.

The descriptions of topographical anatomy are terse and to the point and much use is made of bold face type and italics, which gives the pages a rather patchy appearance but may be helpful in learning the facts. The clinical applications are interspersed throughout the text in blue panels so that it is easy to use the book either as a 'swot book' for pure anatomy or as an integrated

textbook. There are also a number of clinical cases for diagnosis at the end of each section, with answers and discussion given later. These are very realistically presented and I was quite upset by the (I hope fictitious) case of the student whose father took him out to dinner after his first anatomy examination, got drunk and choked on a piece of steak while telling an 'off-color' story. Fortunately the student knew about the Heimlich manoeuvre.

As is bound to happen with a book of this size, there are a certain number of inaccurate or misleading statements – "The liver is the easiest abdominal organ to palpate"; "Each bronchopulmonary segment is supplied by its own nerve, artery and vein"; "The clavicle begins to ossify in the seventh week". Some of the clinical comments, too, are a little odd – "The basal bronchi may be cleared by the patient standing on his/her head for several minutes every morning". There is also a certain amount of repetition, inevitable when the writing of the book must have been spread over several years. For example, episiotomy (not the most anatomical of operations) is described in considerable detail on pages 333 and 347.

On the other hand, there is a huge amount of both anatomical and clinical information in this book, including some fascinating insights into American football injuries such as Charley horse, separation of the shoulder and hip pointer.

All in all, this is an absolutely splendid book but a certain amount of thought is necessary before deciding for whom it is absolutely splendid. I can certainly recommend it very strongly for Primary FRCS candidates, for medical students taking integrated courses and for the better students in general. As a standard textbook, however, it is, perhaps, a little too detailed for the average medical student, who would have to miss out many parts of the text such as the description of the attachments of the back muscles.

Reviewers like to feel that their comments may be of some value to authors in providing feedback that may help in preparing future editions. It is disappointing, therefore, that the very valid criticisms of the first edition that were made by this journal's reviewer have been disregarded so that, for example, the drawing of a Colles' fracture (Fig. 6. 161) still shows a widely separated distal radial fragment. Perhaps in the next edition the unfortunate bronchiectatic patient will be treated by proper physiotherapy instead of yoga.

D. B. MOFFAT

Form and Function in Birds, Vol. 3. Edited by A. S. KING and J. McLELLAND. (Pp. xiii + 522; many figures; £90.) Orlando, London: Academic Press. 1985.

This is the penultimate volume in this series. As with previous volumes this one provides an admirable blend of up-to-date scientific information combined with readability.

There are nine chapters. 1. *Integument* (R. I. C. Speakman & J. A. Hardy, 56 pages) deals with skin structure, glands, feathers, beak, claws and thermoregulation. 2. *Locomotor System* (R. J. Raikow, 91 pages) provides considerable detail of the musculoskeletal system in the fore limb, hind limb and tail. Special features include the remarkable versatility of the feet in mouse birds. 3. *Somatic Peripheral Nerves* (A. Bubien-Waluszewska, 45 pages) is mainly concerned with their distribution. 4. *Nasal Cavity and Olfactory System* (B. G. Bang & B. M. Wenzel, 31 pages) contains a fascinating account of a relatively neglected topic, in which the structure (bioengineering) and function (neurophysiology) of the olfactory apparatus is correlated with the bird's behaviour (finding food, defence, navigation). Smell may even be the basis of the 'peck order'. 5. *External and Middle Ears* (R. Kuhne & B. Lewis, 45 pages) starts with a consideration of auditory biophysics. Unlike mammals whose ears are pressure receivers, birds' ears are pressure-difference receivers. This is made possible by the application of sound waves to both sides of the tympanic membrane. The specialised feathers around the owl's face act as an antenna tuned to the frequency used for locating prey. 6. *Inner Ear* (C. A. Smith, 38 pages) gives a detailed account of the cochlea and vestibular organs within the bony labyrinth. There are many electron micrographs and stereo drawings. 7. *Eye* (G. R. Martin, 65 pages) provides a comprehensive account of the eye and all its parts, including colour vision, sensitivity and the pecten. 8. *Structure and Function of Avian Somatosensory Receptors* (K.-M. Gottschaldt, 87 pages) consists of a major survey of this widespread subject, with some emphasis on the many types of beak receptors. There are good electron micrographs and schematic drawings. 9. *Structure and Function of Avian Taste Receptors* (H. Berkhoudt, 32 pages) gives a concise and well illustrated account of the distribution, structure and innervation of taste buds. Experimental work relates taste to feeding, swallowing and rejection of food.